

APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

FIG. 1B

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CTC Leu 105	GAT Asp	GCC Ala	AGC Ser	TGC Cys	CTC Leu 110	GGG Gly	CGT Arg	CTG Leu	GGC Gly 115	ATC Ile	CGT Arg	GTC Val	GCC Ala	TAC Tyr 120	390
TTT Phe	GGC Gly	CTC Leu	ACC Thr	ACA Thr 125	CTG Leu	AGT Ser	GCC Ala	TCG Ser	GGG Ala 130	CTC Leu	GTG Val	GCC Ala	TTG Leu 135	GCG Ala	438
TTC Phe	ATC Ile	ATC Ile	AAG Lys 140	CCA Pro	GGA Gly	TCC Ser	GGT Gly	GGG Ala 145	CAG Gln	ACC Thr	CTT Leu	TCC Ser 150	AGC Ser	GAC Asp	486
CTG Leu	GGG Gly	CTG Leu	GAG Glu	GAC Asp	TCG Ser	GGG Gly	CCT Pro 160	CCT Pro	GTC Val	CCC Pro	AAA Lys 165	GAG Glu	ACG Thr	GTG Val	534
GAC Asp	TCT Ser 170	TTC Phe	CTC Leu	GAC Asp	CTG Leu	GCC Ala	AGA Arg 175	AAC Asn	CTG Leu	TTT Phe	CCC Pro 180	TCC Ser	CTT Leu	GTG Val	582
GTT Val 185	GCA Ala	GCT Ala	TTC Phe	CGT Arg	ACG Thr 190	TAT Tyr	GCA Ala	ACC Thr	GAT Asp 195	TAT Tyr	AAA Lys 200	GTC Val	ACC Thr	CAG Gln 200	630
AAC Asn	AGC Ser	AGC Ser	TCT Ser	GGA Gly 205	GTA Val	ACC Thr	CAT His	GAA Glu 210	AAG Lys	ATC Ile	CCC Pro	ATA Ile	GGC Gly 215	ACT Thr	678

APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

FIG. 1C

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GAG	ATA	GAA	GGG	ATG	AAC	ATT	TTA	GGA	TTG	GTC	CTG	TTT	GCT	CTG	GTG	720
Glu	Ile	Glu	Gly	Met	Asn	Ile	Leu	Gly	Leu	Val	Leu	Phe	Ala	Leu	Val	
			220					225					230			
TTA	CGA	GTG	GCC	TTA	AAG	AAA	CTA	GGC	TCC	GAA	GGA	GAA	GAC	CTC	ATC	774
Leu	Gly	Val	Ala	Leu	Lys	Lys	Leu	Gly	Ser	Glu	Gly	Glu	Asp	Leu	Ile	
		235					240					245				
CGT	TTC	TTC	AAT	TCC	CTC	AAC	GAG	GCG	ACG	ATG	GTG	CTG	GTG	TCC	TGG	822
Arg	Phe	Phe	Asn	Ser	Leu	Asn	Glu	Ala	Thr	Met	Val	Leu	Val	Ser	Trp	
	250					255					260					
ATT	ATG	TGG	TAC	GTA	CCT	GTG	GGC	ATC	ATG	TTC	CCT	GTT	GGA	AGC	AAG	870
Ile	Met	Trp	Tyr	Val	Pro	Val	Gly	Ile	Met	Phe	Leu	Val	Gly	Ser	Lys	
	265				270					275					280	
ATC	GTG	GAA	ATG	AAA	GAC	ATC	ATC	GTG	CTG	GTG	ACC	AGC	CTG	GGG	AAA	918
Ile	Val	Glu	Met	Lys	Asp	Ile	Ile	Val	Leu	Val	Thr	Ser	Leu	Gly	Lys	
				285					290					295		
TAC	ATC	TTC	GCA	TCT	ATA	TTG	GGC	CAT	GTT	ATT	CAT	GGA	GGA	ATT	GTT	966
Tyr	Ile	Phe	Ala	Ser	Ile	Leu	Gly	His	Val	Ile	His	Gly	Gly	Ile	Val	
			300					305					310			
CTG	CCA	CTT	ATT	TAT	TTT	GTT	TTC	ACA	CGA	AAA	AAC	CCA	TTC	AGA	TTC	1014
Leu	Pro	Leu	Ile	Tyr	Phe	Val	Phe	Thr	Arg	Lys	Asn	Pro	Phe	Arg	Phe	
		315					320					325				

APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

FIG. 1D

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CTC Leu 330	CTG Leu 330	GGC Gly 330	CTC Leu 330	CTC Leu 330	GCC Ala 335	CCA Pro 335	TTT Phe 335	GGC Ala 335	ACA Thr 335	GCA Ala 335	TTT Phe 340	GCT Ala 340	ACC Thr 340	TGC Cys 340	TCC Ser 340	1062
AGC Ser 345	TCA Ser 345	GGC Ala 345	ACC Thr 345	CTT Leu 345	CCC Pro 350	TCT Ser 350	ATG Met 350	ATG Met 350	AAG Lys 350	TGC Cys 355	ATT Ile 355	GAA Glu 355	GAG Glu 355	AAC Asn 360	AAT Asn 360	1110
GGT Gly 358	GTG Val 358	GAC Asp 358	AAG Lys 358	AGG Arg 365	ATC Ile 365	AGC Ser 365	AGG Arg 365	TTT Phe 370	ATT Ile 370	CTC Leu 370	CCC Pro 370	ATC Ile 370	GGG Gly 375	GCC Ala 375	ACC Thr 375	1158
GTG Val 380	AAC Asn 380	ATG Met 380	GAC Asp 380	GGA Gly 380	GCA Ala 380	GCC Ala 380	ATC Ile 380	TTC Phe 385	CAG Gln 385	TGT Cys 390	GTG Val 390	GCC Ala 390	CCG Ala 390	GTG Val 390	TTC Phe 390	1206
ATT Ile 395	GCG Ala 395	CAA Gln 395	CTC Leu 395	AAC Asn 395	AAC Asn 395	ATA Ile 395	GAG Glu 400	CTC Leu 400	AAC Asn 400	GCA Ala 400	GGA Gly 400	CAG Gln 405	ATT Ile 405	TTC Phe 405	ACC Thr 405	1254
ATT Ile 410	CTA Leu 410	GTG Val 410	ACT Thr 410	GCC Ala 410	ACA Thr 410	GCG Ala 415	TCC Ser 415	AGT Ser 415	GTT Val 415	GGA Gly 420	GCA Ala 420	GCA Ala 420	GGC Gly 420	GTG Val 420	CCA Pro 420	1302
GCT Ala 425	GGA Gly 425	GGG Gly 425	GTC Val 425	CTC Leu 425	ACC Thr 430	ATT Ile 430	GCC Ala 430	ATT Ile 430	ATC Ile 430	CTG Leu 435	GAG Glu 435	GCC Ala 435	ATT Ile 435	GGG Gly 440	CTG Leu 440	1350

APPROVED	O.G. FIG.	
	CLASS	SUBCLASS
BY		
DRAFTSMAN		

FIG. 1E

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[illegible]

FIG. 2B

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APPROVED BY	O.G. FIG.
DRAFTSMAN	CLASS SUBCLASS

GTC Val 105	ACA Thr	GGA Gly Met	ATG Ala	GCG Ala	GCG Ala	CTA Leu	GAT Asp	AGT Ser	AAG Lys	GCA Ala	TCA Ser	GGG Gly	AAG Lys	TGG Trp	GAA Glu	390
TGC Cys	GGA Gly	GCT Ala	GTA Val	GTC Val	TAT Tyr	TAT Tyr	ATG Met	ACT Thr	ACC Thr	ATC Thr	ATC Ile	ATT Ile	GCT Ala	GTG Val	GTG Val	438
ATT Ile	GGC Gly	ATA Ile	ATC Ile	GTC Val	ATC Ile	ATC Ile	ATC Ile	ATC Ile	CAT His	CCT Pro	GGG Gly	AAG Lys	GGC Gly	ACA Thr	AAG Lys	486
GAA Glu	AAC Asn	ATG Met	CAC His	AGA Arg	GAA Glu	GGC Gly	AAA Lys	ATT Ile	GTA Val	CGA Arg	GTG Val	ACA Thr	GCT Ala	GCA Ala	GAT Asp	534
GCC Ala	TTC Phe	CTG Leu	GAC Asp	TTG Leu	ATC Ile	AGG Arg	AAC Asn	ATG Met	TTA Leu	AAT Asn	CCA Pro	AAT Asn	CTG Leu	GTA Val	GAA Glu	582
GCC Ala	TGC Cys	TTT Phe	AAA Lys	GAG Gln	TTT Phe	AAA Lys	ACC Thr	AAC Asn	TAT Tyr	GAG Glu	AAG Lys	AGA Arg	AGC Ser	TTT Phe	AAA Lys	630
GTG Val	CCC Pro	ATC Ile	GAG Gln	GCC Ala	AAC Asn	GAA Glu	ACG Thr	CCT Leu	GTG Val	GCT Gly	GCT Ala	ATA Ile	AAC Asn	AAT Asn	AAT Asn	678

FIG. 2D

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APPROVED	O.G. FIG.
BY	CLASS SURCLASS
DRAFTSMAN	

GCA Ala 330	GTC Val 330	ATC Ile	GTC Val	TTG Leu	CCA Pro	CTC Leu	CTC Leu	TAC Tyr	TTC Phe	TTG Leu	GTA Val	ACA Thr	CGG Arg	AAA Lys	AAC Asn	1062
CCT Pro 345	TGG Trp	GTT Val	TTT Phe	ATT Ile	GGA Gly	GGG Gly	TTG Leu	CTG Leu	CAA Gln	GCA Ala	CTC Leu	ATC Ile	ACC Thr	GCT Ala	CTG Leu	1110
GGG Gly	ACC Thr	TCT Ser	TCA Ser	AGT Ser	TCT Ser	GCC Ala	ACC Thr	CTA Leu	CCC Pro	ATC Ile	ACC Thr	TTC Phe	AAG Lys	TGC Cys	CTG Leu	1158
GAA Glu	GAG Glu	AAC Asn	AAT Asn	GGC Gly	GTG Val	GAC Asp	AAG Lys	CGC Arg	GTC Val	ACC Thr	AGA Arg	TTC Phe	GTG Val	CTC Leu	CCC Pro	1206
GTA Val	GGA Gly	GCC Ala	ACC Thr	ATT Ile	AAC Asn	ATG Met	GAT Asp	GGG Gly	ACT Thr	GCC Ala	CTC Leu	TAT Tyr	GAG Glu	GCT Ala	TTG Leu	1254
GCT Ala	GCC Ala	ATT Ile	TTC Phe	ATT Ile	GCT Ala	CAA Gln	GTT Val	AAC Asn	AAC Asn	TTT Phe	GAA Glu	CTG Leu	AAC Asn	TTC Phe	GGA Gly	1302
CAA Gln	ATT Ile	ATT Ile	ACA Thr	ATC Ile	AGC Ser	ATC Ile	ACA Thr	GCC Ala	ACA Thr	GCT Ala	GCC Ala	AGT Ser	ATT Ile	GGG Gly	GCA Ala	1350

APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

FIG. 2E

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GCT Ala Gly	GGA Ile Gly	ATT Pro Gln	CCT Gln Ala	CAG Gln Ala	GGC Gln Ala	CTG Gln Ala	CTG Gln Ala	GTC Gln Ala	ACT Gln Ala	ATG Met Val	GTC Ile Val	ATT Ile Val	CTG Leu Val	CTG Leu Val	ACA Thr 455	1398
TCT Ser Val	GTC Val Gly	GGC Gly Gly	CTG Leu Gly	GAC Asp Thr	ACT Thr 450	ATC Ile Thr	ATC Ile Thr	ATC Ile Thr	ATC Ile Thr	ATC Ile Thr	ATC Ile Thr	ATC Ile Thr	ATC Ile Thr	ATC Ile Thr	ATC Ile Thr	1446
TGG Trp Phe	TTC Phe Gly	TTG Leu Gly	GAT Asp Gly	CGC Arg Gly	CGG Arg Gly	CTC Leu Gly	ACC Thr 480	ACC Thr 480	ACC Thr 480	ACC Thr 480	ACC Thr 480	ACC Thr 480	ACC Thr 480	ACC Thr 480	ACC Thr 480	1494
CTG Leu Gly	GGA Gly Gly	GCT Ala Gly	GGG Gly Gly	ATT Ile Gly	GTG Val Gly	GAG Gln Gly	CAC His Gly	TTG Leu Gly	TCA Ser Gly	CGA Arg Gly	CAT His Gly	GAA Glu Gly	CTG Leu Gly	CTG Leu Gly	CTG Leu Gly	1542
AGA Arg 505	GAT Asp Gly	GTT Val Gly	GAA Glu Gly	ATG Met Gly	GGT Gly Gly	TCA Ser Gly	AAC Asn Gly	GTG Val Gly	ATT Ile Gly	GAA Glu Gly	GAG Glu Gly	ATT Asn Gly	GAA Glu Gly	ATG Met Gly	ATG Met Gly	1590
AAA Lys	CCA Pro Gly	TAT Tyr Gln	CAA Gln Gly	CTG Leu Gln	ATT Ile Gln	GCA Ala Gln	CAG Gln Gln	GAC Asp Gln	AAT Asn Gln	GAA Glu Gln	ACT Thr Gln	GAG Glu Gln	AAA Lys Gln	CCC Pro Gln	CCC Pro Gln	1638
GAC Asp	AGT Ser Gly	GAA Glu Gly	ACC Thr Gln	AAG Lys Met	ATG Met Gln	TAGACTAACA	TAGACTAACA	TAGACTAACA	TAAAGAACA	TAAAGAACA	TAAAGAACA	CTTT	CTTT	CTTT	CTTT	1680

APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

GATAGT	GTG	AAGAGGAGGG	GGGT	CCCAG	ACC	ATG	GCA	TCT	ACG	GAA	GGT	GCC	54
						Met	Ala	Ser	Thr	Glu	Gly	Ala	
						1				5			
AAC	AAT	ATG	CCC	AAG	CAG	GTG	GAA	GTG	GAC	AGT	CAT	CTT	102
Asn	Asn	Met	Pro	Lys	Gln	Val	Glu	Val	Asp	Ser	His	Leu	
		10				15			20				
GGC	TCA	GAG	GAA	CCC	AAG	CAC	CGG	CAC	CGC	CTG	TGT	GAC	150
Gly	Ser	Glu	Glu	Pro	Lys	His	Arg	His	Arg	Leu	Cys	Asp	
	25					30							
AAG	CTG	GGG	AAG	AAT	CTG	CTG	CTC	ACC	CTG	GGT	GTC	ATC	198
Lys	Leu	Gly	Lys	Asn	Leu	Leu	Leu	Thr	Thr	Gly	Val	Ile	
40				45				50				55	
CTG	GGG	GCA	GTG	TGT	GGA	GGG	CTT	CTT	TCT	CCC	ATC	CAC	246
Leu	Gly	Ala	Val	Cys	Gly	Gly	Leu	Leu	Ser	Pro	Ile	His	
				60				65			70		
CCT	GAT	GTG	GTT	ATG	TTA	ATA	GCC	TTC	ATA	CTC	ATG	AGG	294
Pro	Asp	Val	Val	Met	Leu	Ile	Ala	Phe	Ile	Leu	Met	Arg	
				75				80		85			
ATG	CTA	AAA	ATG	CTC	ATT	CTG	GGT	CTA	ATC	TTA	ATC	ACA	342
Met	Leu	Lys	Met	Leu	Ile	Leu	Gly	Ile	Ser	Leu	Ile	Thr	
		90					95			100			

APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	

FIG. 3B

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GGG Gly	TTG Leu	TCA Ser	GGC Gly	CTG Leu	GAT Asp	GCT Ala	AAG Lys	GCT Ala	AGT Ser	GGC Gly	CGC Arg	TTG Leu	GGC Gly	ACG Thr	AGA Arg	390
	105					110					115					
GCC Ala	ATG Met	GTG Val	TAT Tyr	TAC Tyr	ATG Met	TCC Ser	ACG Thr	ACC Thr	ATC Ile	ATT Ile	GCT Ala	GCA Ala	GTA Val	CTG Leu	GGG Gly	438
120					125					130						
GTC Val	ATT Ile	CTG Leu	GTC Val	TTG Leu	GCT Ala	ATC Ile	CAT His	CCA Pro	GGC Gly	AAT Asn	CCC Pro	AAG Lys	CTC Leu	AAG Lys	AAG Lys	486
						140				145						
CAG Gln	CTG Leu	GGG Gly	CCT Pro	GGG Gly	AAG Lys	AAG Lys	AAT Asn	GAT Asp	GAA Glu	GTG Val	TCC Ser	AGC Ser	CTG Leu	GAT Asp	GCC Ala	534
						155				160						
TTC Phe	CTG Leu	GAC Asp	CTT Leu	ATT Ile	CGA Arg	AAT Asn	CTC Leu	TTC Phe	CCT Pro	GAA Glu	AAC Asn	CTT Leu	GTC Val	CAA Gln	GCC Ala	582
						170						180				
TGC Cys	TTT Phe	CAA Gln	CAG Gln	ATT Ile	CAA Gln	ACA Thr	GTG Val	ACG Thr	AAG Lys	AAA Lys	GTC Val	CTG Leu	GTT Val	GCA Ala	CCA Pro	630
	185					190					195					
CCG Pro	CCA Pro	GAC Asp	GAG Glu	GAG Glu	GCC Ala	AAC Asn	GCA Ala	ACC Thr	AGC Ser	GCT Ala	GAA Glu	GTC Val	TCT Ser	CTG Leu	TTG Leu	678
200					205					210					215	

FIG. 3C

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APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

AAC Asn	GAG Glu	ACT Thr	GTG Val	GAG Glu	CCG Pro	GTG Val	GAG Glu	GAG Glu	ACT Thr	AAG Lys	ATG Met	GTT Val	ATC Ile	AAG Lys	726
AAG Lys	GGC Gly	CTG Leu	GAG Glu	TTC Phe	AAG Lys	GAT Asp	GGG Gly	ATG Met	GTC Val	TTA Leu	GGT Gly	CTG Leu	ATA Ile	GGG Gly	774
TTT Phe	TTC Phe	GCT Ala	GCT Ala	ATC Ile	GGC Gly	TTC Phe	TTC Phe	ATC Ile	GAT Asp	ATG Met	GGA Gly	GAT Asp	CAG Gln	GCC Ala	822
AAG Lys	CTG Leu	ATT Ile	GTG Val	ATG Met	AAC Asn	TTC Phe	ATG Met	TTG Leu	AAT Asn	GAG Glu	ATT Ile	GTA Val	ATG Met	AAG Lys	870
TTA Leu	GTG Val	ATC Ile	ATG Met	ATC Ile	TAC Tyr	TGG Trp	TCT Ser	CCC Pro	CTG Leu	GGT Gly	ATC Ile	GCC Ala	TGC Cys	CTG Leu	918
ATC Ile	TGT Cys	GGA Gly	AAG Lys	ATC Ile	ATC Ile	GCA Ala	AAG Lys	GAC Asp	TTA Leu	GAA Glu	GTG Val	GTT Val	GCT Ala	AGG Arg	966
CAA Gln	CTG Leu	GGG Gly	ATG Met	TAC Tyr	ATG Met	GTA Val	ACA Thr	GTG Val	ATA Ile	GGC Gly	CTC Leu	ATC Ile	ATC Ile	CAC His	1014

APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

FIG. 3E

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GCC Ala 440	AGT Ser 440	ATC Ile	CCC Pro	AGT Ser	GCC Ala 445	GGG Gly	CTG Leu	GTC Val	ACC Thr	ATG Met 450	CTC Leu	CTC Leu	ATT Ile	CTG Leu	ACA Thr 455	1398
GCC Ala 460	GTG Val	GGC Gly	CTG Leu	CCA Pro 460	ACA Thr	GAG Glu	GAC Asp	ATC Ile	AGC Ser 465	TTG Leu	CTG Leu	GTG Val	GCT Ala	GTG Val 470	GAC Asp	1446
TGG Trp	CTG Leu	CTG Leu	GAC Asp	AGG Arg	ATG Met	AGA Arg	ACT Thr	TCA Ser 480	GTC Val	AAT Asn	GTT Val	GTG Val	GGT Gly 485	GAC Asp	TCT Ser	1494
TTT Phe	GGG Gly	GCT Ala 490	GCG Gly	ATA Ile	GTC Val	TAT Tyr	CAC His 495	CTC Leu	TCC Ser	AAG Lys	TCT Ser	GAG Glu 500	CTG Leu	GAT Asp	ACC Thr	1542
ATT Ile	GAC Asp 505	TCC Ser	GAG Gln	CAT His	CGA Arg	GTG Val 510	CAT His	GAA Glu	GAT Asp	ATT Ile	GAA Met 515	ATG Met	ACC Thr	AAG Lys	ACT Thr	1590
CAA Gln 520	TCC Ser	ATT Ile	TAT Tyr	GAT Asp	GAC Asp 525	ATG Met	AAG Lys	AAC Asn	CAC His	AGG Arg 530	GAA Glu	AGC Ser	AAC Asn	TCT Ser	ATT Asn 535	1638
CAA Gln	TGT Cys	GTC Val	TAT Tyr	GCT Ala	GCA Ala	CAC His	AAC Asn	TCT Ser	GTC Val 540	ATA Ile	GTA Val	GAT Asp	GAA Glu	TGC Cys 550	AAG Lys	1686

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

FIG. 3F

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GTA ACT CTG GCA GCC AAT GGA AAG TCA GCC GAC TGC AGT GTT GAG GAA 1734
 Val Thr Leu Ala Ala Ser Lys Lys Ser Ala Asp Cys Ser Val Glu Glu
 555 560 565

GAA CCT TGG AAA CGT GAG AAA TAAGGATATG AGTCTCAGCA AATTCTTGAA 1785
 Glu Pro Trp Lys Arg Glu Lys Lys

TAAACTCCCC AGCGT 1800

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

FIG. 4C

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CTG Leu Val	GTG Val	GAT Asp	TTC Phe	TTC Phe	AAT Asn	GCT Ala	TTG Leu	AGT Ser	GAT Asp	GCA Ala	ACC Thr	ATG Met	AAA Lys	ATC Ile	GTT Val	771
			240				245						250			
CAG Gln Ile	ATC Ile	ATC Ile	ATG Met	TGT Cys	TAT Tyr	ATG Met	CCA Pro	CTA Leu	GGT Gly	ATT Ile	TTG Leu	TTC Phe	CTG Leu	ATT Ile	GCT Ala	819
			255				260					265				
GGG Gly Lys	AAG Lys	ATC Ile	ATA Ile	GAA Glu	GTT Val	GAA Glu	GAC Asp	TGG Trp	GAA Glu	ATA Ile	Phe Phe	CGC Arg	AAG Lys	CTG Leu	GGC Gly	867
			270				275					280				
CTT Leu 285	TAC Tyr	ATG Met	GCC Ala	ACA Thr	GTC Val	CTG Leu	ACT Thr	GGG Gly	CTT Leu	GCA Ala	ATC Ile	CAC His	TCC Ser	ATT Ile	GTA Val	915
							290					295			300	
ATT Ile	CTC Leu	CCG Pro	CTG Leu	ATA Ile	TAT Tyr	TTC Phe	ATA Ile	GTC Val	GTA Val	CGA Arg	AAG Lys	AAC Asn	CCT Pro	TTC Phe	CGA Arg	963
							305						310		315	
TTT Phe	GCC Ala	ATG Met	GGA Gly	ATG Met	GCC Ala	CAG Gln	GCT Ala	CTC Leu	CTC Leu	ACA Thr	GCT Ala	CTC Leu	ATG Met	ATC Ile	TCT Ser	1011
			320					325					330			
TCC Ser	AGT Ser	TCA Ser	GCA Ala	ACA Thr	CTG Leu	CCT Pro	GTC Val	ACC Thr	TTC Phe	CGC Arg	TGT Cys	GCT Ala	GAA Glu	GAA Glu	AAT Asn	1059
								340								

APPROVED BY	O.G. FIG. CLASS	FIG. 42
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FIG. 4D

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AAC Asn 350	CAG Gln Val 350	GTG Val 350	GAC Asp 350	AAG Lys 350	AGG Arg 350	ATC Ile 350	ACT Thr 350	CGA Arg 350	TTC Phe 350	CTG Val 350	TTA Leu 350	CCC Pro 350	GTT Val 350	GGT Gly 350	GCA Ala 350	1107
ACA Thr 365	ATC Ile 365	AAC Asn 365	ATG Met 365	GAT Asp 365	GGG Gly 365	ACC Thr 365	GCG Ala 365	CTC Leu 365	TAT Tyr 365	GAA Glu 365	GCA Ala 365	GTG Val 365	GCA Ala 365	GCG Ala 365	GTG Val 365	1155
TTT Phe 385	ATT Ile 385	GCA Ala 385	CAG Gln 385	TTG Leu 385	AAT Asn 385	GAC Asp 385	CTG Leu 385	GAC Asp 385	TTG Leu 385	GGC Gly 385	ATT Ile 385	GGG Gly 385	CAG Gln 385	ATC Ile 385	ATC Ile 385	1203
ACC Thr 400	ATC Ile 400	AGT Ser 400	ATC Ile 400	ACG Thr 400	GCC Ala 400	ACA Thr 400	TCT Ser 400	GCC Ala 400	AGC Ser 400	ATC Ile 400	GGA Gly 400	GCT Ala 400	GCT Ala 400	GGC Gly 400	GTG Val 400	1251
CCC Pro 415	CAG Gln 415	GCT Ala 415	GGC Gly 415	CTG Leu 415	GTG Val 415	ACC Thr 415	ATG Met 415	GTG Val 415	ATT Ile 415	GTG Val 415	CTG Leu 415	AGT Ser 415	GCC Ala 415	GTG Val 415	GGC Gly 415	1299
CTG Leu 430	CCC Pro 430	GCC Ala 430	GAG Glu 430	GAT Asp 430	GTC Val 430	ACC Thr 430	CTG Leu 430	ATC Ile 430	ATT Ile 430	GCT Ala 430	GTC Val 430	GAC Asp 430	TGG Trp 430	CTC Leu 430	CTG Leu 430	1347
GAC Asp 445	CGG Arg 445	TTC Phe 445	AGG Arg 445	ACC Thr 445	ATG Met 445	GTC Val 445	AAC Asn 445	GTC Val 445	CTT Leu 445	GGT Gly 445	GAT Asp 445	GCT Ala 445	TTT Phe 445	GGG Gly 445	ACT Thr 445	1395

APPROVED	O.G. FIC.
BY	CLASS SURCLASS
DRAFTSMAN	

FIG. 4E

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GGC ATT GTG GAA AAG CTC TCC AAG AAG GAG CTG GAG GAG ATG GAT GTT 1443
 Gly Ile Val Glu Glu Lys Ser Lys Lys Glu Leu Glu Gln Met Asp Val 475

TCA TCT GAA GTC AAC AAT GTG AAT CCC TTT GCC TTG GAA TCC ACA ATC 1491
 Ser Ser Glu Val Val Asn Ile Val Asn Pro Phe Ala Leu Glu Ser Thr Ile 490

CTT GAC AAC GAA GAC ACC ACC AAG AAG AAG TCT TAT GTC AAT GGA GGC 1539
 Leu Asp Asn Glu Asp Ser Asp Thr Lys Lys Ser Ser Thr Val Asn Gly Gly 505

TTT GCA GTA GAC AAG TCT GAC ACC ATC TCA TTC ACC GAG ACC TCA CAG 1587
 Phe Ala Val Asp Lys Ser Ser Thr Ile Ser Phe Thr Thr Ser Gln 520

TTT TAGGGCCCT GGCTGCAGAT GACTGGAAC AAGGAAGGAC ATTCGTGAG 1640
 Phe 525

AGTCATCTCA AACACGGCTT AAGGAAAGA GAAA 1674

FIG. 5A

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APPROVED BY DRAFTSMAN	O.G. FIG. CLASS SUBCLASS
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ASCT1	MEKSNETNGLYDQAAGPAAGPAGTAAGRARRCARFLRRQALVLL...TVSGVLASAGLGAALR.GL
GLAST1	MTKSNGEERPMGSRTRFQQGRKRTLLAKKQVONI TKEDVKSYLERNAFVLL...TVSAVIVTGILGFALRPPY.
GLT1	MASTEGANNMPKQVEVRMHDSHLSSEEPKHRNLGRMCDKLGKLNLLSLTVFVGVLGAVCGGILRLAA
EAAC1	MGRKPAKGCDSKRELFKNWLLLS.TVVAVLGIVIGVLVREYS
66	SLSRTOVTLAFPGEMLLRMERVILPLVVCVLSQAASDASCILQRLGGIRVAYFGL.TTLCASALAVALAFAI
72	KMYREKVFSPFGEILMRMQLVLPULIISSLVTGMAALDSKAGKMG.M.RAVVYMTTIIIAVIGIIVII
69	PIHPDVMLIAFPFGDILMRMELKVLILPLIISSLITGLSGIDAKASRLGT.RAMVYVMSTTIIAAVLGIVILVA
43	NLSTLDKFYAFPGELIMRMELKVLILPLIIVSSMITGVAALDSNVSGIKGL.RAVLYYFCTTIIIAVILGIVLVVS
130	IKPESGAQTIQSSDILEDSGPPVPVKETVDSFLDLARNLFPSNLVVAARITYATDYKW.....TONSSS
145	IHPGKGT.KENMYREGKIVOWTA.....ADAFDLIRNMFPPNLVEACFKFKTSYEKRSFKVPIQANETLLG
142	IHPGNPKLKKQLGPGKKNDEVSS.....LDAFLDLIRNLFPPNLVQACFOQIQTVTKKVLVAPPS.EEANTTK
116	IKFGVTQKVEIDRIGSTPEVST.....VDAMLDLIRNMFENLVQACFOQYKTTREEV..TASDDTKGNGTI
205	QNTVTHEKIPIGTEI.....EGMNLGLVLFAVLGVALKKLGSEGEDLIRFFNSINEATVVLVSW
212	AVINNVJEMETLTRIREEMVPVPGSVN.GVNALGLVVFSCMCFGVIGNMEQGGALREFFDSDINEAIVRLVAV
209	AVISLNETHNEAPEETKIVIKKLEFKDGMNVLGLIGFIAFGIMKMGVAGGADGVGLONSERDCHESVDM
182	ESVTAVMTTAVSNETKEYRVVGLYS..DGINVLGLIVFLVGLVIGKMGKEKGGILVDFDFFNALSDAATWKIVQI
265	IMWVVPVGMFLVGSRIIVEMKDIIVLVTSLGKIFYASILGHVIGHGIVLPILIFYVFTTRKNPPFELLGLLAPFAT
285	IMWYAPLGLIFLIAGKILEMEDMGVIGOLAMTVTVIIVGLLIHIAVIVLPILIFYVTRKNPNWPIFGGLIQAALIT
283	DHVVPAGTACLIQKIIAIKDLVVAROLGMVITVIGLIIHGGIFLPIIFYVTRKNPNFSEFAGIQAWIT
254	IMCYMPLGLIFLIAGKIIIEVEDWEIF.RKLGVLNVTVLSGLAIHISIVILPIIFYIVVRKNPNFPMGMTQALLT
339	AFATCSSSATLPSMMKCIENNGVDKRIISRFLPIGATVNMMDGAAIFQCVAAVFIAGINNIEENAGQIFGILVLT
350	ALCTSSSATLPIITPKCLENNGVDKRITRFVLVPVGTATNMMDGALYEAALAAIFAGVNNFDFNFGQIITISIT
357	ALCTASSAGTLPVTRFCLENLGIDKRVTRFVLVPVGTATNMMDGALYEAVAALFIAGMNGVILDDGQIVTVSLT
327	ALMISSSATLPIVTRFCAEENRVDKRITRFVLVPVGTATNMMDGTALYEAVAALFIAGINDMDESIGQIITISVT

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

FIG. 5B

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413

ATASVGAAGVPAGGVLTIAIILEAIGLPHDLELILAVDWIVDRTTVVNVEGDALGAGILHMINOKATKKGE

433

ATAASIGAAGIPOAGIVTMVIVITSVGLPTDDITIIIAVDWFLDRITTTNVLGDSLGAGIVEHLSRHEIKNRD

431

ATLASIGAASIP SAGIVTMLLITAVGLPTEDISLAVDWLLDRMRTSVNVVGDSFGAGIVYHLSKSELDITD

401

ATAASIGAAGVPAGIVTMVIVISAVGLPAEDVTLLIAVDWLLDRFRTVVNVIGDAFGTGI VEXLSKKELEQMD

487

QELAEVKVEAI PNCKSEEEETSPLVTHQNPGPVASAPELESKESVL 532

507

VENGSVIEENEMKKPYQLIAQDNEPEKPVADSETKM 543

505

SQHRMHEDIEMTKTQSVYDDTKNHRRESNQCVAAHNSVVIDECKVTLAANGKSADCSVEEFPWKREK 573

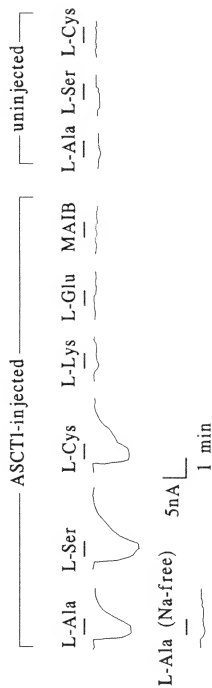
475

VSEVNIVNPFALESATLDNEDSDTKKSYINGGFAVDKSDTISFTQTSQF 524

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

FIG. 6A

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APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

FIG. 6B

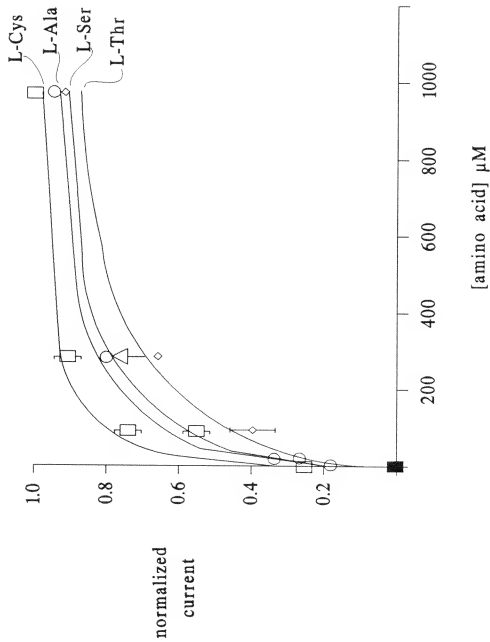
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L-Alanine (μM)



FIG. 6C

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APPROVED	Q.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

FIG. 7A

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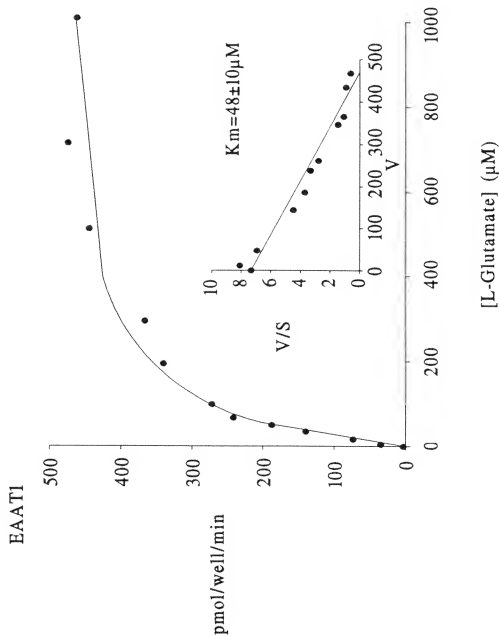
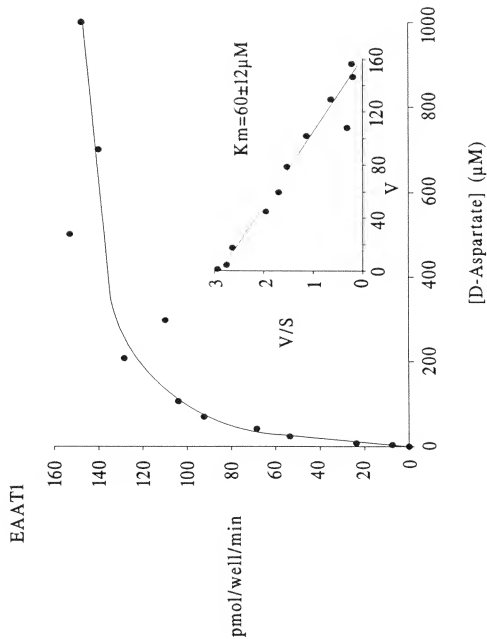


FIG. 7B

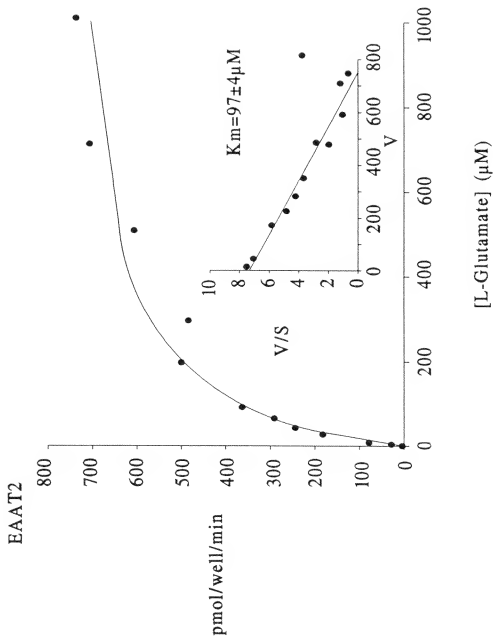
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APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

FIG. 7C

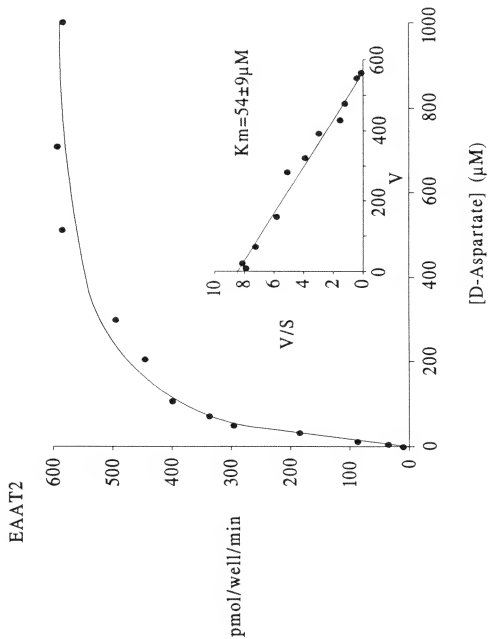
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APPROVED	O.G. FIG.
BY	CLASS
DR4FTSMAN	

FIG. 7D

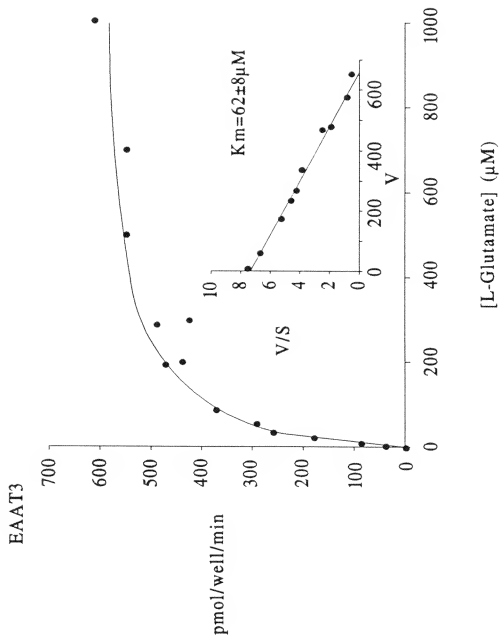
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APPROVED	O.G. FIG.
BY	CASE: SUBCLASS
DRAFTSMAN	

FIG. 7E

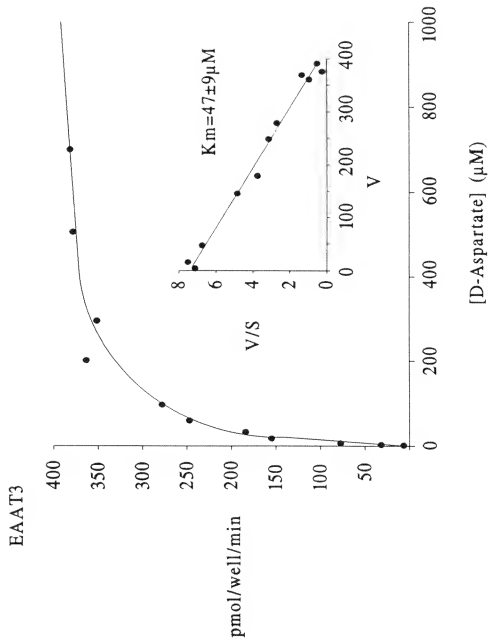
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APPROVED	O.G. FIG.
BY	GLASS
DRAFTSMAN	SUSCLASS

FIG. 7F

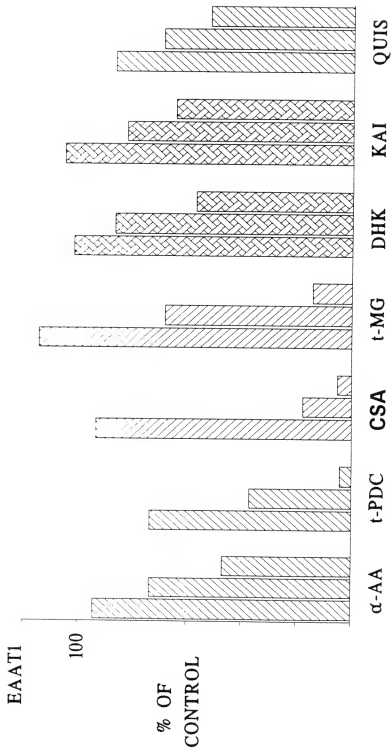
SHEET 32 OF 42



APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

FIG. 8A

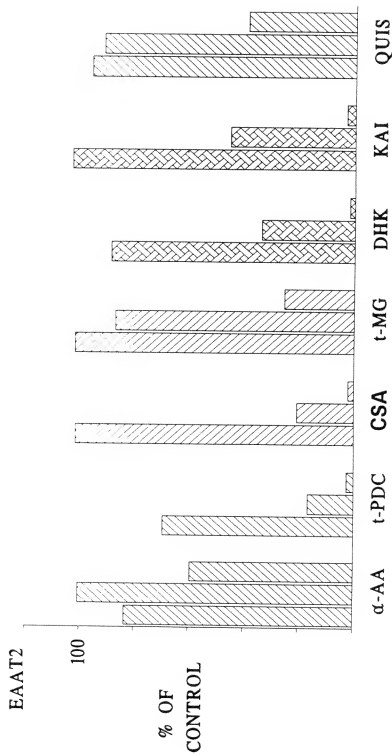
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APPROVED BY DRAFTSMAN	O.G. FIG. CLASS SUBCLASS
-----------------------------	--------------------------------

FIG. 8B

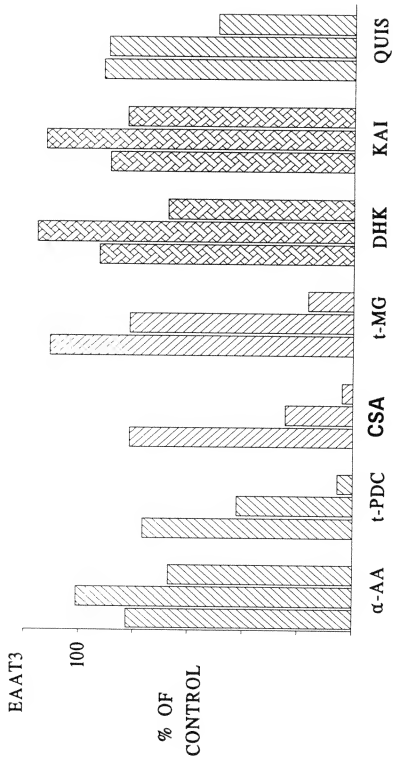
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APPROVED BY DRAFTSMAN	O.G. FIC. CLASS SURCLASS
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FIG. 8C

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APPROVED	O.G. FIG.	
	CLASS	SUBCLASS
BY	DRAFTSMAN	

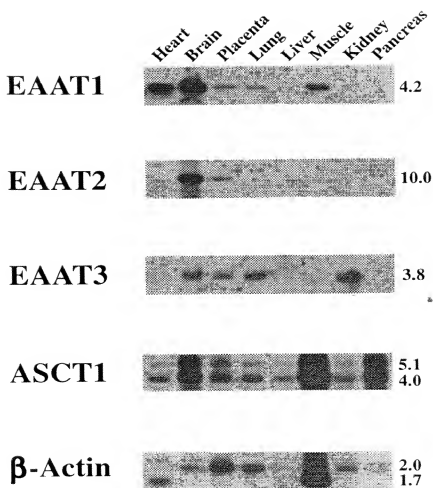


Figure 9

APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

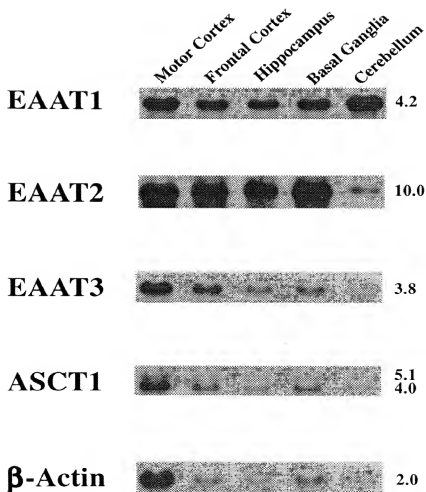


Figure 10

APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

FIG. 11

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EAAT1

EAAT2

EAAT3

MTKSNGEPEKMGGRMERFQQGVKRKRTLLAKKVV(1)TKKOVKSYLEGNPFVLL...TVTAVIVGI.I.GFIRLPY.
MASTEGANNMPKQVEVRMPDPSHLGSEEPKHRMLGRLRCDKLGNLLITITVFGVILGAVCGGRLRLAS
MGKPEARKGCPSWKRFLLKNNVLLS.TVAAVLGITITGVIVREHS

72

69

44

RMSYREVXYFSFGELIMRMLOMLVPLIIISSLVTGMAALDSKASGMGRVAVVYMTTIIIAVIGIILVII
PIMPDVMLIAEPGDIIMRLMKMLILPLIIISSLITGLSGLDKASGRLGTRAMVYMTSTIIIAAVLGVITVLAI
(1)NSTLEKTYFAEPGEIIMRLMKLIIILPLIIISMITGVAALDS(1)SSKIGIRAVVYFGTIIIAVILGIVLVVSI

146

143

118

HPGKGT KENMHREGKIVRVTRAADAFDLDLIRNMFFPNLVEACFKQFKTGVEKRSFKVP(1)QAN(1)TILVGVAVIN(1)S
HPGNPKLRKQKLGPGKKNDEVSSIDAFDLDLIRNLFENLVQACFQIQOTVTKKVLVAPPPDEEQATSAEVS(1)Q
KPGVTQKVEIARTGSTPEVSTVDAMLDLIRNMFFENLVQACFQVKTKREVE..KPPSDPFEN(1)TEESFTAVN

219

217

190

EMATELTRITFELVPVPGSVN.GVNALGHVVFMSMCFGVIGNMKEQGQALREFFDLSINEAIRMLRVAVINWYAPE
EFTVEPEETKMWIKKGLFKDGMNVGLIGFFIAFGIAMKMGQAKIMVDFFNILNEIVMKVIMINWYSPL
TTAIS(1)KTKTKYKIVGMY..DGINVLGLIVFCLVFLGVTGKMGEGQILVDFFNALSDATMKIVQIIMCVML

292

291

261

GILFLIAGKIVEMEDMGVIGQOLAMYTVTIVGLITHAVTLPLIYFLYTRKNPWVFIGLLOALITAGTSSS
GIACLICGKIIAIKDLIEVARQLGMVATVIGLIIHGGLFPLIYFVYTRKNPFSLFAGIFQAMITAGTASS
GILFLIAGKIIIEVEDWFIF.RKIGLYMATVLTGLAIHSIVILPLIYFIVYRKNPFERFANGMAQALLTAIMISS

366

385

334

SATLPIITFKOLEENNVDKRVTRFVLPGVATINMDGTALYEALAAIFIAQVNNFELNFGQIITISITAPASIG
AGTLPIITFKOLEENLIGIDKRVTRFVLPGVATINMDGTALYEAVAAIFIAQMGVVLDDGQIVTVSLTATLASVG
SATLPIITFKOLEENNQVDKRIITRFVLPGVATINMDGTALYEAAVAFIAQLNDLDLGIGQIITISITATSASIG

APPROVED	O. G. FIG.
BY	CLASS
DRAFTSMAN	

FIG. 11A

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—9—

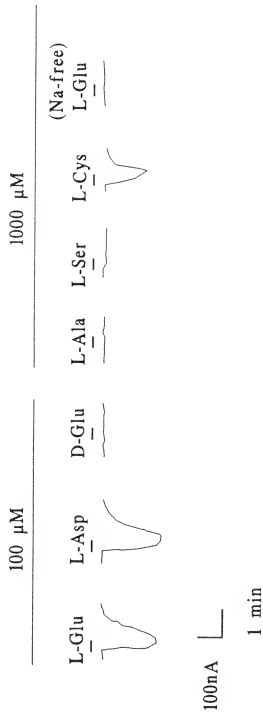
440 AAGIPQAGIVTMVIVILTSVGLPTDDITLIIAVDWFLDRLETTNNVLGDSLGAIVHEHLSRHEKKNRDVEMGNSV
439 AAGIPQAGIVTMVIVILTSVGLPTDDITLIIAVDWFLDRLETTNNVLGDSLGAIVHEHLSRHEKKNRDVEMGNSV
408 AAGIPQAGIVTMVIVILTSVGLPTDDITLIIAVDWFLDRLETTNNVLGDSLGAIVHEHLSRHEKKNRDVEMGNSV

514 IEENEMKKPYQLIAQDTEKEPIDSETKM 542
513 DIEMTKTQSHYDDMKNHRESNQCVAHNSVIVDECKVTLAANGKSADCSVEEPPWKREK 574
482 VNPFALESTLDNEDSDTKKSYVNGGPAVDKSDTISFTQTSQF 525

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

FIG. 12A

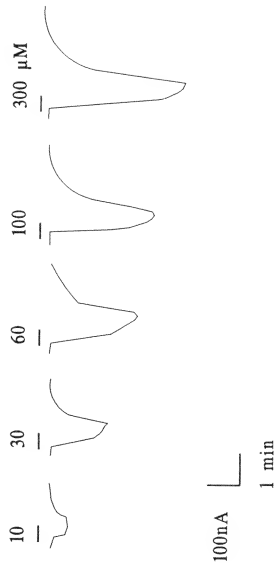
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APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

FIG. 12B

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APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

FIG. 12C

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